

## CLAIMS

1. An image-forming system employing an image-forming apparatus having a removable cartridge possessing a memory element, comprising:
  - a reading component for reading information from the memory element; and
  - 5 an executing component for executing processing for providing a benefit to a user based on information read by the reading component.
2. An image-forming system according to claim 1 wherein
  - the information which is read is user support information for supporting use of the image-forming apparatus or a URL of a site on a communications network possessing the user
  - 10 support information; and
  - the executing component executes processing for supporting the user based on the user support information or the URL.
3. A method for providing a benefit comprising:
  - a reading step wherein information is read from a memory element attached to a
  - 15 cartridge used by an image-forming apparatus;
  - a processing step wherein processing for providing a benefit to a user is executed based on the information read at the reading step; and
  - a benefit providing step wherein a benefit is provided to the user based on the results of the processing executed at the processing step.
- 20 4. A method for providing a benefit according to claim 3 wherein
  - the information read at the reading step is user support information for supporting use of the image-forming apparatus or a URL of a site on a communications network possessing the user support information; and
  - processing for supporting the user is executed at the processing step based on the user
  - 25 support information or the URL.
5. An image-forming system employing a host apparatus and an image-forming apparatus which are mutually connected, comprising:

a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and lottery determination data for determining whether something has been won being stored in the memory element;

5 a reading component for reading the lottery determination data from the memory element;

a lottery determination component that uses lottery determination data read by the reading component to determine whether something has been won; and

10 a prize awarding component that performs processing for awarding a prize to a user in correspondence to the results of a determination carried out by the lottery determination component when the results of such determination indicate that something has been won.

6. An image-forming system according to claim 5 wherein the prize awarding component records data indicating that something has been won in the memory element of the cartridge when the results of a determination carried out by the lottery determination component indicate that something has been won, as a result of which the user is made able to receive the prize upon exchange of the cartridge therefor.

7. An image-forming system according to claim 5 wherein the prize awarding component provides the user with information indicating that something has been won when the results of a determination carried out by the lottery determination component indicate that something has been won, as a result of which the user is made able to receive the prize by notifying a prescribed organization of the information indicating that something has been won.

8. An image-forming system according to claim 5 wherein prize data, being the prize itself or data for obtaining the prize from a prescribed prize awarding organization, is stored in the memory element, and

25 the prize awarding component reads the prize data from the memory element when the results of a determination carried out by the lottery determination component indicate that something has been won, and uses the prize data to award the prize to the user.

9. An image-forming system according to claim 5 wherein the lottery determination data is win-or-lose data that indicates directly whether something has been won, and

the lottery determination component determines directly from the win-or-lose data whether something has been won.

10. An image-forming system according to claim 5 wherein the lottery determination data is encoded lottery data, and

5 the lottery determination component determines whether something has been won by performing prescribed processing on the encoded lottery data.

11. An image-forming system employing a host apparatus and an image-forming apparatus which are mutually connected, comprising:

10 a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and prize data, being a prize itself or data for obtaining a prize from a prescribed prize awarding organization, being stored in the memory element;

15 a component that determines whether something has been won in connection with use of the image-forming apparatus or the host apparatus, and reads the prize data from the memory element and uses the prize data to award a prize to a user when the results of that determination indicate that something has been won.

12. An image-forming system according to claim 11 wherein the prize data comprises at least one species selected from among the group consisting of image data serving as a prize itself, image-forming apparatus driver information serving as a prize itself, a keyword or password which must be supplied to a prescribed prize awarding organization in order obtain a prize, and a URL of a network site which awards a prize.

13. An image-forming system employing a host apparatus and an image-forming apparatus which are mutually connected, comprising:

25 a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and usage data indicating an amount of use to date of the image-forming apparatus or the cartridge being stored in the memory element;

a reading component that reads the usage data from the memory element; and

a prize awarding component that performs processing for awarding a prize to a user in correspondence to the usage data read by the reading component.

14. An image-forming system according to claim 13 further comprising a component for preventing repeated awarding of prizes based on the same usage data.

15. An image-forming system employing a host apparatus and an image-forming apparatus which are mutually connected, comprising;

5 a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and data which comprises at least one species selected from among the group consisting of a URL of a network site which awards a prize, a keyword or password which must be supplied to a prescribed prize awarding organization in order obtain a prize, image-forming apparatus driver information serving as a prize itself, and image data serving as  
10 a prize itself in consideration for use of the cartridge being stored in the cartridge memory element;

a reading component that reads the data from the cartridge memory element; and

a prize awarding component that uses data read by the reading component to perform processing for awarding a prize to a user.

15 16. An image-forming system according to claim 5, 11, or 15 further comprising a component for performing processing to prevent repeated awarding of prizes in connection with the same cartridge.

17. An image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising;

20 a replaceable cartridge possessing a memory element storing lottery determination data for determining whether something has been; and

a reading component for reading the lottery determination data from the memory element, as a result of which the image-forming apparatus makes it possible for the image-forming system to use lottery determination data read by the reading component to determine  
25 whether something has been won and perform processing for awarding a prize to a user in correspondence to the results of that determination when those results indicate that something has been won.

18. An image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

a replaceable cartridge possessing a memory element storing prize data, being a prize itself or data for obtaining a prize from a prescribed prize awarding organization; and

5 a reading component for reading the prize data from the memory element, as a result of which the image-forming apparatus makes it possible for the image-forming system to determine whether something has been won in connection with use of the image-forming apparatus or the host apparatus and use the prize data to perform processing for awarding a prize to a user when the results of that determination indicate that something has been won.

10 19. An image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

a replaceable cartridge possessing a memory element storing usage data indicating an amount of use to date of the image-forming apparatus or the cartridge; and

15 a reading component for reading the usage data from the memory element, as a result of which the image-forming apparatus makes it possible for the image-forming system to perform processing for awarding a prize to a user in correspondence to the usage data read by the reading component.

20. An image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

20 a replaceable cartridge possessing a memory element storing data which comprises at least one species selected from among the group consisting of a URL of a network site which awards a prize, a keyword or password which must be supplied to a prescribed prize awarding organization in order obtain a prize, image-forming apparatus driver information serving as a prize itself, and image data serving as a prize itself in consideration for use of the cartridge  
25 being stored in the memory element; and

a reading component for reading the data from the memory element, as a result of which the image-forming apparatus makes it possible for the image-forming system to use the data so read by the reading component to perform processing for awarding a prize to a user.

21. A host apparatus in an image-forming system wherein an image-forming apparatus and the host apparatus are mutually connected, a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and lottery determination data for determining whether something has been won being stored in the memory element, the host  
5 apparatus comprising:

--- a prize awarding component that receives the results of a determination of whether  
--- something has been won which is performed by the image-forming system based on lottery  
determination data within the memory element, and that performs processing for awarding a  
prize to a user in correspondence to the results of this determination when those results  
10 indicate that something has been won.

22. A host apparatus in an image-forming system wherein an image-forming apparatus and the host apparatus are mutually connected, a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and prize data, being a prize itself or data for obtaining a prize from a prescribed prize awarding organization, being stored in the  
15 memory element, the image-forming system performing a determination of whether something has been won in connection with use of the image-forming apparatus or the host apparatus, the host apparatus comprising:

a prize awarding component that receives the results of the determination of whether something has been won from the image-forming system and uses prize data read from the  
20 memory element by the image-forming apparatus to perform processing for awarding a prize to a user when the results of that determination indicate that something has been won.

23. A host apparatus in an image-forming system wherein an image-forming apparatus and the host apparatus are mutually connected, a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and usage data indicating an amount  
25 of use to date of the image-forming apparatus or the cartridge being stored in the memory element, the host apparatus comprising:

a prize awarding component that performs processing for awarding a prize to a user in correspondence to usage data read from the cartridge memory element by the image-forming apparatus.

24. A host apparatus in an image-forming system wherein an image-forming apparatus and the host apparatus are mutually connected, a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, and data which comprises at least one species selected from among the group consisting of a URL of a network site which awards a prize, a keyword or password which must be supplied to a prescribed prize awarding organization in order obtain a prize, image-forming apparatus driver information serving as a prize itself, and image data serving as a prize itself in consideration for use of the cartridge being stored in the cartridge memory element, the host apparatus comprising:

a prize awarding component that uses data read from the memory element by the image-forming apparatus to perform processing for awarding a prize to a user.

25. A cartridge capable of being replaceably installed in an image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

a memory element in which lottery determination data for determining whether something has been won is stored;

- as a result of which the cartridge makes it possible for the image-forming system to read the lottery determination data from the memory element, use the lottery determination data so read to determine whether something has been won, and perform processing for awarding a prize to a user in correspondence to the results of that determination when those results indicate that something has been won.

26. A cartridge capable of being replaceably installed in an image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

a memory element in which prize data, being a prize itself or data for obtaining the prize from a prescribed prize awarding organization external to the image-forming system, is stored;

as a result of which the cartridge makes it possible for the image-forming system to  
5 determine whether something has been won in connection with use of the image-forming apparatus or the host apparatus; and to read the prize data and use that prize data to perform processing for awarding a prize to a user when the results of that determination indicate that something has been won.

27. A cartridge capable of being replaceably installed in an image-forming apparatus in an  
10 image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

a memory element in which usage data indicating an amount of use to date of the image-forming apparatus or the cartridge is stored;

as a result of which the cartridge makes it possible for the image-forming system to  
15 read the usage data from the cartridge memory element and perform processing for awarding a prize to a user in correspondence to the usage data so read.

28. A cartridge capable of being replaceably installed in an image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, comprising:

20 a memory element in which data which comprises at least one species selected from among the group consisting of a URL of a network site which awards a prize, a keyword or password which must be supplied to a prescribed prize awarding organization in order obtain a prize, image-forming apparatus driver information serving as a prize itself, and image data serving as a prize itself in consideration for use of the cartridge is stored;

25 as a result of which the cartridge makes it possible for the image-forming system to read the data from the cartridge memory element and to use the data so read to perform processing for awarding a prize to a user.



29. A method for providing a benefit to a user, by employing a cartridge capable of being replaceably installed in an image-forming apparatus, lottery determination data for determining whether something has been won being stored in a memory element of the cartridge, the method comprising:

5 a reading step wherein the lottery determination data is read from the memory element;

--- a lottery determination step wherein lottery determination data read at the reading step

--- is used to determine whether something has been won; and

a prize awarding step wherein processing for awarding a prize to a user is performed in correspondence to the results of a determination carried out at the lottery determination step  
10 when the results of such determination indicate that something has been won.

30. A method for providing a benefit to a user, by employing a cartridge capable of being replaceably installed in an image-forming apparatus in an image-forming system wherein a host apparatus and the image-forming apparatus are mutually connected, and wherein prize data, being a prize itself or data for obtaining a prize from a prescribed prize awarding organization,  
15 is stored in a memory element of the cartridge, the method comprising

a lottery determination step wherein a determination of whether something has been won in connection with use of the image-forming apparatus or the host apparatus is performed;

a prize data reading step wherein the prize data is read when the results of a  
20 determination carried out at the lottery determination step indicate that something has been won; and

a prize awarding step wherein the prize data read at the prize data reading step is used to perform processing for awarding a prize to a user when the results of a determination carried out at the lottery determination step indicate that something has been won.

25 31. A method for providing a benefit to a user, by employing a cartridge capable of being replaceably installed in an image-forming apparatus, usage data indicating an amount of use to date of the image-forming apparatus or the cartridge being stored in a memory element of the cartridge, the method comprising:

a reading step wherein the usage data is read from the memory element; and

a prize awarding step wherein processing for awarding a prize to a user is performed in correspondence to the usage data read at the reading step.

32. A method for providing a benefit to a user, by employing a cartridge capable of being  
5 replaceably installed in an image-forming apparatus in an image-forming system wherein a host  
apparatus and the image-forming apparatus are mutually connected, and wherein data which  
comprises at least one species selected from among the group consisting of a URL of a  
network site which awards a prize, a keyword or password which must be supplied to a  
prescribed prize awarding organization, image-forming apparatus driver information serving as  
10 a prize itself, and image data serving as a prize itself in consideration for use of the cartridge  
being stored in a memory element of the cartridge, the method comprising:

a reading step wherein the data is read from the memory element; and

a prize awarding step wherein the data read at the reading step is used to perform  
processing for awarding a prize to a user.

- 15 33. A computer program for a host apparatus in an image-forming system wherein an  
image-forming apparatus and the host apparatus are mutually connected, a replaceable  
cartridge possessing a memory element being installed in the image-forming apparatus, and  
lottery determination data for determining whether something has been won being stored in  
the memory element, the computer program comprising:

- 20 program codes for causing the host apparatus to execute processing for receiving the  
results of a determination of whether something has been won which is performed by the  
image-forming system based on lottery determination data within the cartridge memory  
element, and for awarding a prize to a user in correspondence to the results of this  
determination when those results indicate that something has been won.

- 25 34. A computer program for a host apparatus in an image-forming system wherein an  
image-forming apparatus and the host apparatus are mutually connected, a replaceable  
cartridge possessing a memory element being installed in the image-forming apparatus, and  
prize data, being a prize itself or data for obtaining a prize from a prescribed prize awarding

organization, being stored in the cartridge memory element, the image-forming system performing a determination of whether something has been won in connection with use of the image-forming apparatus or the host apparatus, the computer program comprising:

5        program codes for causing the host apparatus to execute processing for receiving the results of the determination of whether something has been won from the image-forming system and for using prize data read from the memory element by the image-forming apparatus to award a prize to a user when the results of that determination indicate that something has been won.

35.     A computer program for a host apparatus in an image-forming system wherein an  
10     image-forming apparatus and the host apparatus are mutually connected, a replaceable cartridge possessing a memory element being installed in the image-forming apparatus, usage data indicating an amount of use to date of the image-forming apparatus or the cartridge being stored in that cartridge memory element, the computer program comprising:

15        program codes for causing the host apparatus to execute processing for awarding a prize to a user in correspondence to usage data read from the cartridge memory element by the image-forming apparatus.

36.     A computer program for a host apparatus in an image-forming system wherein an  
image-forming apparatus and the host apparatus are mutually connected, a replaceable  
cartridge possessing a memory element being installed in the image-forming apparatus, data  
20     which comprises at least one species selected from among the group consisting of a URL of a network site which awards a prize, a keyword or password which must be supplied to a prescribed prize awarding organization, image-forming apparatus driver information serving as a prize itself, and image data serving as a prize itself in consideration for use of the cartridge being stored in the cartridge memory element, the computer program comprising:

25        program codes for causing the host apparatus to execute processing for using data read from the cartridge memory element by the image-forming apparatus to award a prize to a user.

37.     A cartridge for an image-forming apparatus, comprising:

a memory element for storing user information for identifying a user of the image-forming apparatus,

wherein the user information is not stored in the memory element at the time of shipping but is written thereto by the image-forming apparatus following installation thereof in  
5 the image-forming apparatus,

as a result of which the cartridge makes it possible for an external user management system accessing the user information stored in the memory element to identify a user of the cartridge and perform processing for providing a benefit to the user so identified.

38. An image-forming apparatus in which a cartridge having a memory element can be  
10 removably installed, comprising:

a user information acquisition component that acquires user information for identifying a user of this image-forming apparatus; and

a user information writing component that writes the user information to the cartridge memory element following installation of the cartridge in the image-forming apparatus;

15 as a result of which the image-forming apparatus makes it possible for an external user management system accessing the user information stored in the cartridge memory element to identify a user of the cartridge and perform processing for providing a benefit to the user so identified.

39. An image-forming apparatus in which a cartridge having a memory element can be  
20 removably installed, comprising:

a user information acquisition component that acquires user information for identifying a user of this image-forming apparatus;

a cartridge information reading component that reads cartridge information for identifying the cartridge from the cartridge memory element following installation of the  
25 cartridge in the image-forming apparatus; and

a notification component that notifies an external user management system of the user information and the cartridge information;

as a result of which the image-forming apparatus makes it possible for the user management system to identify the user and perform processing for providing a benefit to the user so identified.

40. An image-forming apparatus cartridge recovery method comprising:

5 a step wherein a used cartridge is recovered;

a step wherein information is acquired for identifying a user of the cartridge from an image-forming apparatus in which the cartridge is or was installed or from a memory element of the cartridge so recovered;

a step wherein a user of the cartridge is identified from the information so acquired;

10 and a step wherein processing is performed for providing a benefit to the user so identified.

41. A method for providing information in online processing fashion from an information-providing server in correspondence to a request from a client connected so as to permit communication with an image-forming apparatus in which a cartridge equipped with a memory element is replaceably installed, the method comprising:

15 (a) a step wherein the client uses information stored in the memory element to connect to the information-providing server or to gain access to information thereon;

(b) a step wherein the client sends printing environment information indicating a printing environment of the image-forming apparatus to the information-providing server; and

20 (c) a step wherein the information-providing server sends printing execution information capable of being used to execute printing at the image-forming apparatus connected so as to permit communication with the client to the client in correspondence to information sent to the information-providing server.

42. A method for providing information according to claim 41 wherein the printing execution information comprises control software used by the client or an apparatus connected so as to permit communication with the client during printing using the cartridge.

43. A method for providing information according to claim 41 wherein the printing execution information comprises printing data for supply to the image-forming apparatus.

44. A method for providing information according to claim 41 wherein the step (c) further comprises a step wherein information related to a cartridge capable of being used by the image-forming apparatus is provided to a user of the client.

45. A method for providing information according to any one of claims 41 through 44

5 wherein

the information stored in the memory element comprises a password that will allow the client to gain permission to access information on the information-providing server; and

the step (a) further comprises a step wherein the client uses the password to connect to the information-providing server or to gain access to information thereon.

10 46. A method for providing information according to claim 45 wherein the information on the information-providing server that the user is permitted to access varies in correspondence to the password.

47. A method for providing information in online processing fashion from an information-providing server in correspondence to a request from a client connected so as to permit  
15 communication with an image-forming apparatus in which a cartridge equipped with a memory element is installed, the method comprising:

a step wherein printing environment information indicating a printing environment of the image-forming apparatus is received from the client; and

a step wherein printing execution information capable of being used to execute printing  
20 at the image-forming apparatus connected so as to permit communication with the client is sent to the client in correspondence to information sent to the information-providing server.

48. A method for acquiring information in online processing fashion from an information-providing server, comprising:

a step wherein information stored in a memory element provided in a cartridge installed  
25 in an image-forming apparatus connected so as to permit communication with an information acquiring apparatus is used to connect to the information-providing server;

a step wherein printing environment information indicating a printing environment of the image-forming apparatus is sent to the information-providing server; and

a step wherein printing execution information sent from the information-providing server and capable of being used to execute printing at the image-forming apparatus is acquired in correspondence to information sent to the information-providing server.

49. An information-providing apparatus that provides information in online processing  
5 fashion from an information-providing server in correspondence to a request from a client  
connected so as to permit communication with an image-forming apparatus in which a  
cartridge equipped with a memory element is installed, the information-providing apparatus  
comprising:

- an information receiving component that receives printing environment information  
10 indicating a printing environment of the image-forming apparatus from the client; and  
an information sending component that sends printing execution information capable of  
being used to execute printing at the image-forming apparatus connected so as to permit  
communication with the client to the client in correspondence to information sent to the  
information-providing server.

50. An information acquiring apparatus that acquires information in online processing  
15 fashion from an information-providing server, comprising:

- an information-providing server connection component that uses information stored in  
a memory element provided in a cartridge installed in an image-forming apparatus connected  
so as to permit communication with an information acquiring apparatus to connect to the  
20 information-providing server;

an information sending component that sends printing environment information  
indicating a printing environment of the image-forming apparatus to the information-providing  
server; and

- an information acquiring component that acquires printing execution information  
25 capable of being used to execute printing at the image-forming apparatus in correspondence to  
information sent to the information-providing server.

51. A computer program for causing a computer to provide information in online  
processing fashion from an information-providing server in correspondence to a request from a

client connected so as to permit communication with an image-forming apparatus in which a cartridge equipped with a memory element is installed, the computer program comprising:

program codes for receiving printing environment information indicating a printing environment of the image-forming apparatus, from the client; and

5 codes for sending printing execution information capable of being used to execute printing at the image-forming apparatus connected so as to permit communication with the client, to the client in correspondence to information sent to the information-providing server.

52. A computer program for causing a computer to acquire information in online processing fashion from an information-providing server, the computer program comprising:

10 program codes for connecting to the information-providing server by using information stored in a memory element provided in a cartridge installed in an image-forming apparatus connected so as to permit communication with the computer;

program codes for sending printing environment information indicating a printing environment of the image-forming apparatus, to the information-providing server; and

15 program codes for acquiring printing execution information capable of being used to execute printing at the image-forming apparatus, in correspondence to information sent to the information-providing server.